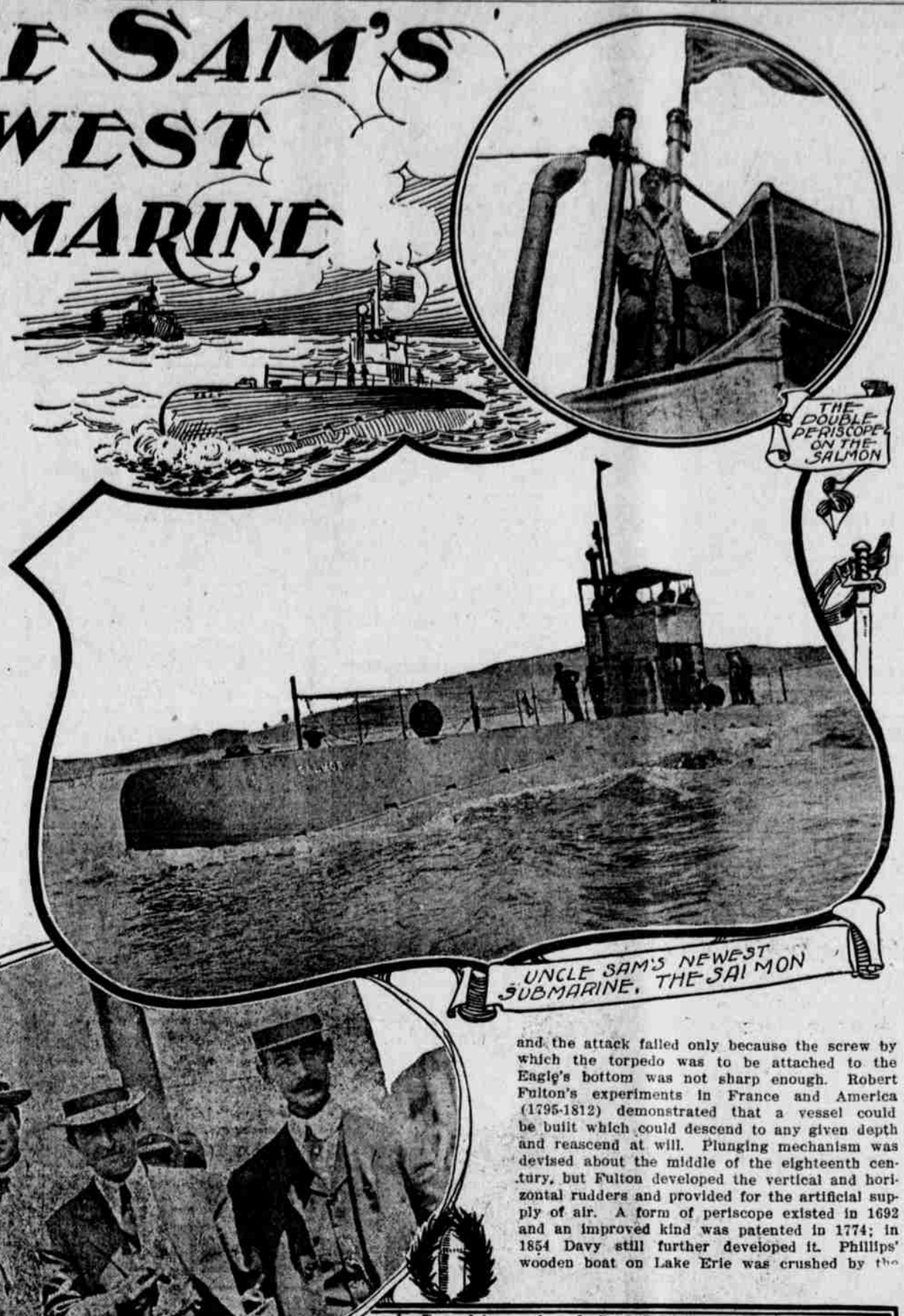
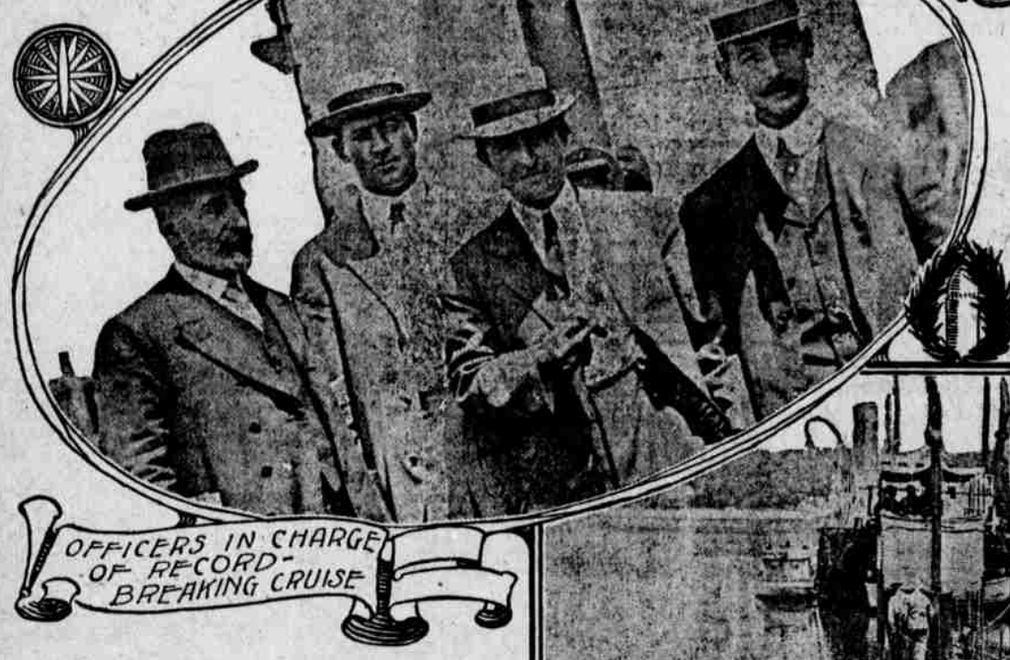
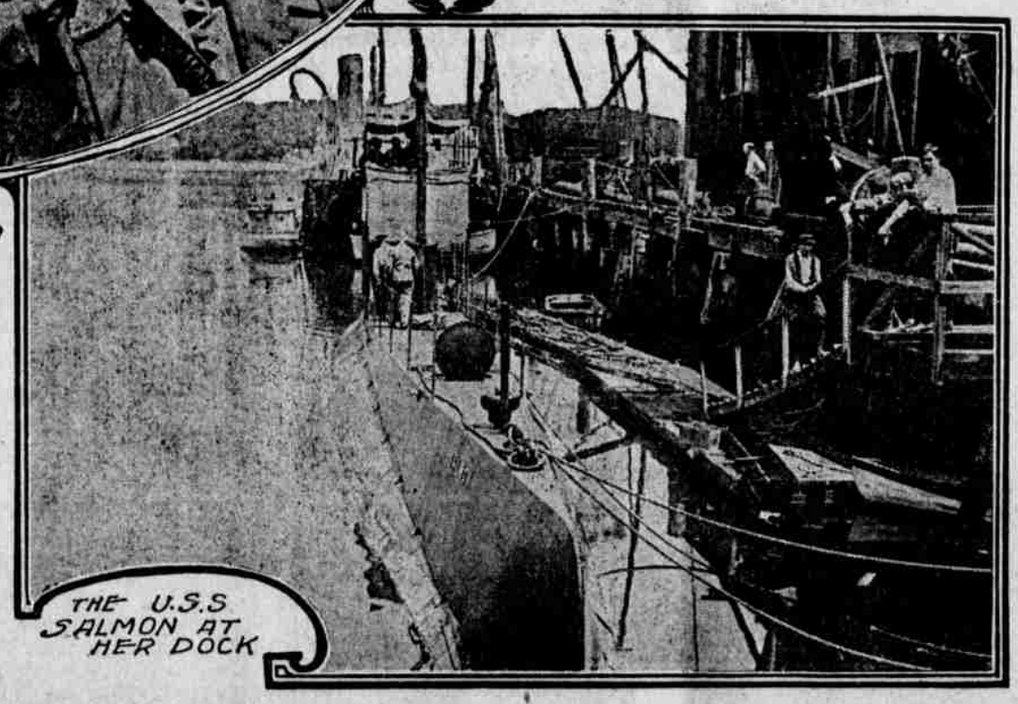
UNCLE SAM'S NEWEST SUBMARINE







UNCLE SAM'S newest and most interesting submarine boat, the Salmon, is an object of international interest just now and is hailed on both sides of the Atlantic as the most remarkable submarine boat in the world. This fame is due to the Salmon's recent record-breaking cruise from the Atlantic coast to Bermuda and return—a deep-sea voyage such as has had no parallel in the history of under-water craft. The cruise to Bermuda was not only the first cruise by a submarine to a foreign port or out of sight of land, but it was the longest virtually continuous run ever attempted by such a vessel. The total distance covered aggregated nearly 1,700 miles and, as it happened, the little vessel encountered very rough weather during a considerable part of the trip.

Not only did this nautical excursion establish a new record for vessels of the American navy, but it surpassed all foreign achievements. The best performances previously recorded by American vessels of this type was found in the run of the submarine Viper from Cape Lookout to Annapolis, Md., a distance of about 483 knots, and the cruise of a flotilla of submarines from New York to Annapolis, a distance of 385 knots. Among the foreign performances of such vessels there stands out the record of English submarines of about the same size as the Salmon, which made the coastwise run from Dover to Dundee, a distance of 512 miles, and the famous performance of the French submarine Papin, which on one occasion made a cruise of 1,200 miles. However, this French achievement is overshadowed by the Salmon's cruise because not only was the distance of the latter much greater, but it was an open sea performance, whereas the Papin cruised along the coast, and, finally, the French vessel is much larger than the new American record-breaker, the Papin being of 550 tons displacement, whereas the Salmon is of but 320 tons displacement.

The Salmon, alike to most of the submarines which have lately been added to the United States navy, is a development of the original Holland type of submarine which first gave the Americans the lead in this class of shipbuilding. The Salmon is 135 feet in length by 14 feet beam and is a twin-screw boat, being driven on the surface by two gasoline engines of 300 horsepower each and propelled when submerged by electrical power supplied from storage batteries.

By way of fulfilling her mission of destruction the little vessel has four torpedo tubes equipped to fire the latest type of torpedo—that is, a torpedo 17 feet in length and 18 inches in diameter, having a radius of 4,000 yards and carrying an explosive charge of 200 pounds of guncotton. On her cruise to Bermuda the Salmon carried a crew of 21 men, but it was demonstrated on this cruise that under actual service conditions such a submarine can be operated, in so far as navigation is concerned, by five men—two on the bridge and three in the engine room.

The Salmon is capable of a speed of 14 knots per hour when running awash or on the surface of the water and 12 knots per hour when running wholly submerged. Only three minutes is required to change from surface running by gasoline engines to submerged running by electrical power. The vessel has, on trial, dived to a depth of more than 200 feet without any sign of strain or leakage being manifest anywhere on her steel cigar-shaped body. A unique feature of the equipment of an up-to-date submarine such as the Salmon, is a double periscope whereby, when the vessel is wholly submerged the officers on board can observe all that is going on at the surface of the water. Electrical ranges are provided for cooking the meals of those on board, and there is a reserve supply of 4,800 cubic feet of air, contained in 28 tanks, so that if need be the vessel could be "sealed up" tight and remain under the surface of the water for one or two days and nights without those on board having any communication with the outside world or coming to the surface for fresh air. On the Salmon's Bermuda cruise there were on board, in addition to the officers of the American navy, Capt. Arturo Cuevas of the Chilean navy, who went for the purpose of reporting to his government on the behavior of the vessel.

Modern submarine boats are of two types, the submerged and the submergible. The submerged when in light cruising condition moves with only a small percentage of the hull above the water; the submergible cruises on the surface much like an ordinary torpedo boat, which it resembles externally. The difference in principle between the two types is slight, but in construction details it is very marked. The submerged boats are usually nearly cylindrical with pointed ends, the general shape being much like that of a Whitehead torpedo. Submergence is effected by admitting water to the ballast tanks or by means of inclined rudders, or both. Submergible boats have two hulls, one inside the other. The outer hull resembles closely that of the ordinary torpedo boat, but has as few projections as possible rising from the general outline, in order to present a smooth surface when submerged. Inside this there is a second hull of nearly circular cross-section and as large as the shape of the outer boat permits. To effect submergence water first admitted to the space between the hulls, and this brings the boat to the "awash" condition. Further submergence is effected by permitting the ballast tanks to fill.

When or by whom was built the first submarine boat will probably never be known. It is said that Alexander the Great was interested in submarine navigation, while subaqueous attacks of vessels was studied at least as early as the thirteenth or fourteenth century. M. Delpeuch states that some English ships were destroyed in 1372 by fire carried under water. In the early part of the seventeenth century submarine boats were numerous, and in 1624 Cornelius Van Drebbel exhibited to King James I. on the Thames a submarine boat of his own design. By 1727 no less than fourteen types of submarines had been patented in England alone. In 1774 Day began experiments with a submarine boat at Plymouth, England, losing his life in the second submergence trial. In the following year David Bushnell built his first boat, with which Sergeant Lee attacked H. M. S. Eagle in New York harbor. Lee actually got under the ship, and the attack failed only because the screw by which the torpedo was to be attached to the Eagle's bottom was not sharp enough. Robert Fulton's experiments in France and America (1795-1812) demonstrated that a vessel could be built which could descend to any given depth and reascend at will. Plunging mechanism was devised about the middle of the eighteenth century, but Fulton developed the vertical and horizontal rudders and provided for the artificial supply of air. A form of periscope existed in 1692 and an improved kind was patented in 1774; in 1854 Davy still further developed it. Phillips' wooden boat on Lake Erie was crushed by the water pressure, and the same fate befell Bauer's iron boat Plongeur-Marin at Kiel in 1850. In 1863 McClintock and Howgate built a semi-submarine hand-propelled boat for the attack on the federal fleet, but it sank four times, each time drowning the entire crew of eight men. In the same year several larger boats propelled by engines were commenced in Europe, and these at intervals were followed by others designed by Hovgaard, Goubet, Zede, Nordenfeldt, Tuck, Holland and others. The French navy began experimenting with submarine boats about 1885. The Gymnote was built in 1888 and the Gustave Zede in 1893. The Morse was commenced in 1894, but remained uncompleted until 1899, pending additional experiments with the Gymnote and the Zede. In that year the construction of submarines was actively commenced, ten being launched in 1901.

All London is talking about the startling exhibitions of speed given by a little boat on the Thames and at Bournemouth. The boat was seen racing up and down the river at what seemed a terrific speed, darting along by leaps and bounds, just as a shark chases a fish scudding between wind and water. The impression she left was not so much that of power, for she was such a mite of a thing, only 26 feet long, as of vicious and desperate energy. Crowds of people gathered along the embankment to watch her, wondering whence in her tiny body this overpowering energy could come.

It has since been divulged that she is the Miranda IV., the latest experiment in skim boats, or, as they are called technically, hydroplanes, by the veteran English inventor, Sir John Thornycroft. Compared with anything near her size, the Miranda IV. is certainly the fastest craft afloat. Her exact speed is not known, but she has several times done well over 34 knots an hour, and has decisively beaten the Columbine at Bournemouth, the only other craft which could lay claim to a record in her class. But it is not only for this terrific speed that the Miranda IV. is remarkable. She is the most seaworthy craft of her size that has been constructed.

NEW EQUIPMENT OF SCHOOLS

Idea Adopted in Washington Removes Fear of Formality by Making Family Groups of the Children.

To take away the old fear of the stiff-disciplined schoolrooms and make them into a nice little meeting place, where children have a splendid time, and incidentally learn more and better lessons than children ever learned before, an entirely new experiment will be tried which will result in an enormous investment in new furniture, if the scheme is shown to be practicable.

The idea is from the brains of Stephen E. Kramer, director of intermediate instruction, and John A. Chamberlain, supervisor of manual training, and is brand new in school circles.

The scheme has to do with the little stiff-legged desks which the children in the first and second grades have studied at from the early times when desks supplanted the old-fashioned "forms." The desks sit in rows, formal and formidable, and the black iron legs of the desks and the stiffness with which these little pieces of furniture sit on the floor all add to the strictness of discipline which in these latter days is beginning to be looked upon as having disadvantages as well as advantages.

Mr. Kramer has devised a little table desk, only a few pounds in weight, which any first-grade child can lift up and carry around the room. Mr. Chamberlain drew the plans and made the models. A little chair goes with each small table desk, and both desk and chair can be picked up and carried anywhere in the schoolroom.

When the teacher wants to tell them a simple tale of how one and one makes two, they will pick up their little chairs, push aside the desks and sit around the teacher's chair in a very fascinating little family group. The chairs and desks have rubber tipped feet, so there will be little noise.

In this way the teacher will get right in among her children. When she is demonstrating at the blackboard the little boys and girls will bring their chairs and sit close to her. As everyone knows, the present method of having straight and stiff lines of desks and chairs makes it imperative that some of the children will have to sit far off in the back row.

The iden will gain favor, it is believed, and will also take away a little of the first fear of the schoolroom that small children have.—Washington Star.

And Still They Come.

They are coming back. Every ship brings more of them, and we should think up clever, original utterances with which to greet them—such, for instance, as "Isn't America a pretty decent country, after all?" or "How did you enjoy the customs inspection?" or "Well, well! old boy, did you have a good time? Seasick, eh?"

It is wonderful, really, the persistence with which people keep coming home from abroad when they know perfectly well what they've got to face. Often has the clerk marveled at their courage, though possibly it is due to their not hearing a word of what we say, as ideas are bursting out of them with such vehemence as to prevent the entrance of others. We might better save our breath—and reputation for intelligence. Remember, the returned traveler is comparing us with the geniuses of Europe. The way to outshine them is to hold our tongues and listen to his utterances that Baedeker was not mistaken.—Boston Transcript.

Business Sagacity.

"Who is the man who is so loudly and energetically opposing restrictions on automobiling speeding? I don't recollect having seen him among the motorists before."

"You haven't. He's not a motorist; he's an undertaker."

Not Much Like It.

Griggs—Youngwed's wife has just had triplets.

Briggs—You don't say! I thought they were furnishing their home on the installment plan.

THE MARKETS.

LIVE STOCK.

NATIONAL STOCK YARDS.—Cattle—Native beef steers, $4.50@7.50; cows and heifers, $3.00@6.75; stockers and feeders, $3.50@5.50; Texas steers, $5.50@7.25; Texas cows and heifers, $3.00@4.35; calves, in car load lots, $6.00@8.50. Hogs—Mixed and butchers, $8.90@9.15; good heavy, $8.60@8.95; rough, $8.00@8.50; light, $8.90@9.15; pigs, $8.70@9.00. Sheep—Muttons—$4.00@4.25; lambs, $5.50@7.00.

CHICAGO.—Cattle—Beeves, $4.70@8.00; cows and heifers, $3.25@6.40; stockers and feeders, $4.25@5.65; Texans, $3.40@5.75; calves, $7.00@10.00. Hogs—Mixed and butchers, $8.20@9.05; good heavy, $8.05@8.85; rough heavy, $8.05@8.25; light, $8.50@9.10; pigs, $8.20@9.00. Sheep—Native, $2.50@4.40; Western, $2.75@4.25; lambs, $4.50@7.15; Western, $4.75@7.00.

KANSAS CITY.—Hogs—Heavy, $8.40@8.55; medium, $8.50@8.55; light, $8.65@8.90.

GRAIN.

ST. LOUIS.—Wheat—No. 2 red, $1.01½@1.03; No. 3 red, 97@99; No. 4 red, 90@96½; No. 2 hard, 99¼@1.06½; No. 3 hard, 97@1.03; No. 4 hard, 85@95. Corn—No. 2, 54; No. 4, 53½; No. 2 yellow, 54; No. 3 yellow, 53½; No. 2 white, 53½; No. 3 white, 52. Oats—No. 2, 31; No. 3, 30½; No. 4, 29½; No. 2 white, 35@35¼; standard, 34¼@35; No. 3 white, 32@34½; No. 4 white, 32@33.

CHICAGO.—Wheat—No. 2 red, 98¼@98¾; No. 3 red, 96@97½; No. 2 hard, 98@1.03; No. 3 hard, 96@1.00; No. 1 northern, $1.12@1.14; No. 2 northern, $1.00@1.13; No. 3 spring, $1.08@1.11. Corn—No. 2, 52; No. 3, 51¼@51¾; No. 4, 51@51¼; No. 2 yellow, 52@52¼; No. 3 yellow, 51¼@52; No. 2 white, 52¾; No. 3 white, 51¾@5". Oats—No. 2 white, 34¼@34½; standard 34; No. 3 white, 34¼@34½; No. 4 white, 32¼@33.

KANSAS CITY.—Wheat—No. 2 red, 98@99; No. 3 red, 96@98; No. 4 red, 91@95; No. 2 hard, 97@1.03; No. 3 hard, 97@1.02½; No. 4 hard, 86@96½. Corn—No. 2, 51½; No. 3, 51; No. 2 yellow, 52; No. 3 yellow, 51½; No. 2 white, 51½; No. 3 white, 50½@51. Oats—No. 2, 31@31; No. 3, 30½@32; No. 2 white, 33@33½.

History of Red Cross Seal.

"Charity stamps," first used in Boston in 1862 for the soldiers' relief funds during the Civil war, were the original forerunners of the Red Cross Christmas seal, which will be used this year to bring happiness and cheer to millions. The Delaware Anti-Tuberculosis society in 1907 for the first time in America made use of a stamp for the purpose of getting revenue to fight consumption. In a hastily organized campaign of only three weeks they realized $3,000. The next year, 1908, the American Red Cross conducted the first national tuberculosis stamp campaign. From this sale $135,000 was realized for the anti-tuberculosis movement. In 1909, under many adverse conditions, $250,000 was realized from these stamps. This year the slogan of the tuberculosis fighters and the Red Cross is "A Million for Tuberculosis From Red Cross Seals in 1910."

He Knew.

A small boy brought up by a fire-eating father to hate anything connected with England or the English was consigned recently to eat dinner with the nurse while the family entertained a genuine English lord in the dining room. The grown-ups' meal had come to that "twenty minutes past" stage where conversation halts directly, when a childish treble fell upon the dumb-waiter shaft from the kitchen. This is what the astonished nobleman heard:

"Fe, fi, fo, fum,

"I smell the blood of an Englishmun."—Wasp.

Like the Other Kind.

It was in a "down east" village that the young man met his sweetheart, a charming country beauty. When he returned to the city he sent her a jar of cold cream to keep her cheeks as fresh as the budding rose.

On his next visit he asked her how she liked his little gift.

"The taste was very nice," she said, with a rather sickly smile, "but I think that I like the other kind of cream best, dear."—Lippincott's.

The Way It Looked.

Mrs. Benham—How do you like my hat?

Benham—You mean the one with the mayonnaise dressing?

The next best thing to being rich is to have people think you are.